

## Recovery Plan Action Status

**Plan Name:** Astragalus holmgreniorum (Holmgren Milk-Vetch) and Astragalus ampullarioides (Shivwits Milk-Vetch) Recovery Plan

**Plan Status:** Final

**Plan Date:** 29-Sep-06

**Lead Agency:** USFWS

**Lead Office:** Utah Ecological Services Field Office

(501)

975-3330 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.1.1	Protect plant populations on Federal lands	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, U.S. Bureau of Indian Affairs	Management: Identify/Protect Foraging, Breeding and Mig Habitats, Management: Land Use, Management: Planning	Internal Administrative, Internal Technical Assistance	Involved agencies to incorporate recovery actions into planning and management decisions as required by ESA; extending 20 years
Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.1.3	To extent possible, protect populations on non-Federal lands	Ongoing Current	FY 2009		Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Utah and Arizona State agencies other than SITLA and ASLD, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Acquisition: Fee Title	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Conservation easements and fee title acquisitions: 2 years at \$200K, 8 years at \$400K, 20 years at \$500K. Transfer of 6.5 acres of ASHO critical habitat was purchased from SITLA and is now managed by TNC.
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.1.4	Minimize effects of highway projects near occupied habitat	Ongoing Current	FY 2007		U.S. Federal Highway Administration, Department of Transportation (Utah and Arizona), U.S. Fish and Wildlife Service, Region 6	Management: Identify/Protect Foraging, Breeding and Mig Habitats	Internal Field Assistance, Internal Technical Assistance	Cost included in planning actions, possible plan preserve: \$20K FY1-10, \$50K FY 11-14, \$700L FY 15

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.2.1	Locate trails away from occupied sites.	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: Land Use, Management: Planning	Contract, Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	\$30K for first 2 years, \$50K for next 5 years, \$10K for last 3 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.2.2	Protect sites with fencing and maintain fences	Ongoing Current	FY 2009		U.S. Bureau of Land Management, National Park Service, Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: Other	Contract, Internal Field Assistance, Internal Technical Assistance	\$40K for first 5 years, \$30K for next 5 years, \$20K for following 10 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.2.3	Implement effective ORV-use control measures	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$8K for first 10 years, \$3K for following 10 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.2.4	Enforce existing regulations to prevent unauthorized land uses	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Private Landowners, Arizona's Trust Lands Administration, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$8K for first 10 years, \$3K for following 10 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	1.3	Effectively manage livestock grazing activities in species' habitat	Not Started			U.S. Bureau of Land Management, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: Habitat Maintenance and Manipulation	Internal Field Assistance	Periodic surveys and assessed every 3 years. Action duration is periodic within the 30 years.
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	1.4	Incorporate plant protection into Federal agency planning documents	Ongoing Current	FY 2007		U.S. Bureau of Land Management, U.S. Federal Highway Administration, National Park Service, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Involved agencies to incorporate recovery actions into planning and management decisions as required by ESA; extending 20 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.5	Protect vegetation communities/ecosystems associated with each species	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Repeat costs over 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	1.6.1	Protect in situ (onsite) seedbank for each species	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: Land Use	Internal Administrative, Internal Technical Assistance, Species Expert	Repeat costs over 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	1.6.2.1	Develop seed collection and permitting guidelines	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Species Expert	FWS salary

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	1.6.2.2	Collect and store seeds representing genetic variability of each species	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Research: Reintroduction	Contract	\$5K every 5 years for seed collection and conveyance to storage facility
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	10	Establish a technical working group to regularly review status of each species and track effectiveness of recovery actions	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, The Nature Conservancy, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	2 meetings each year, \$2K/year
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	11	Revise recovery program when indicated by new information and recovery progress	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$25K every 5 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	2.1	Standardize rangewide survey procedures for each species	Planned	FY 2009		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), U.S. Fish and Wildlife Service, Region 6	Management: General, Management: Population Monitoring, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Assessment, Research: Population Surveys	Contract, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	FWS, BLM-AB, NPS salary plus technical working group participation
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	2.2.2	Obtain permission from Tribal, State and private landowners and conduct surveys	Ongoing Current	FY 2007		Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$5K/year for 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	2.2.3	Create a spatial database for survey efforts, including negative results	Not Started	FY 2009		U.S. Bureau of Land Management, U.S. Federal Highway Administration, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Utah and Arizona State agencies other than SITLA and ASLD, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: General, Management: Planning, Management: Population Monitoring, Research: Ecosystem Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Assessment, Research: Population Surveys	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	\$10K to create database, \$3K for annual updates for 30 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	3.1	Develop a rangewide monitoring plan and protocol for each species	Planned	FY 2009		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Management: General, Management: Land Use, Management: Population Monitoring, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Assessment	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	\$10K to create database, \$3K for annual updates for 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	3.2	Implement standardized monitoring on Federal lands	Planned	FY 2009		U.S. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, Region 6	Management: Identify/Protect Foraging, Breeding and Mig Habitats	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	\$30K to determine standards, \$12K to implement for 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	3.3	Obtain permission from landowners and conduct monitoring on Tribal & non-Federal lands	Ongoing Current	FY 2007		Academic institutions, U.S. Geological Survey, The Nature Conservancy, Private Landowners, Arizona's Trust Lands Administration, Utah and Arizona State agencies other than SITLA and ASLD, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$10K/year for duration of recovery period; monitoring costs (no USFWS salary costs)

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	3.4	Create a database for long-term collection and evaluation of monitoring data	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$10K to create database, \$3K for annual updates for 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	3.5	Develop post-delisting monitoring and conservation plans	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Develop by FY18 to ensure compatibility with recovery monitoring
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.1	Analyze available data and identify data needed to evaluate population trends	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	One-time cost



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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	4.2	Develop standard procedures for setting annual research priorities and evaluating proposals	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	FWS, BLM-AB, NPS salary plus technical working group participation
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	4.3	Establish protocols for protecting milk-vetch populations during course of field studies	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	FWS, BLM-AB, NPS salary plus technical working group participation
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	4.4	Identify recovery applications of research results	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Research: General	Contract, Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Applications must be reported with research results; research funding should add on cost of researcher attending recovery meeting for presentation and group discussion

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.1	Investigate nonnative weeds	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	For 3 years, repeat every 10 years. Action duration is periodic within the 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.2	Investigate pollinators	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$10K for 3-year period in 15 years. Action duration is periodic within the 15 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.3	Investigate habitat substrates and soil conditions	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Habitat model for ASAM completed by USGS. Ground-truthing was initiated in 2010
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	4.4.4	Investigate fire effects	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$10K/year for 5 year period
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.5	Investigate genetic variation within and among populations	Ongoing Current	FY 2009		Academic institutions, U.S. Geological Survey, U.S. Fish and Wildlife Service, Region 6	Research: Genetics	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	USGS received a SSP/QRP grant in 2010 for a population genetics study on ASHO. Field sampling was completed in 2010. Preliminary reports were received in 2011.

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.6	Investigate seedbank viability and longevity	Complete	FY 2009		U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Graduate Student	\$10K to initiate, "stash" seeds for longevity tests, annual for 5 years, every other year for 10 years. Ally Searle completed a M.S. Thesis on the reproductive success of both species in 2011 (UVU, Orem), including seed viability and soil seed persistence.
Holmgren milk-vetch (Astragalus holmgreniorum)	2	4.4.7	Investigate parasitism and/or disease	Partially Complete	FY 2011	FY 2012	U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), U.S. Fish and Wildlife Service, Region 6	Research: Population Assessment, Research: Predation	Contract	\$4K/yr for estimated 5 years. John Mull, Weber State University, is working on a seed dispersal and predation study for A. holmgreniorum.
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	4.4.8	Conduct population modeling	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$10K to examine information & build model, \$3K/yr fir 30 yrs to maintain

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	4.4.9	Investigate other topics as identified through recovery action 4.1	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$8K every other year. Action duration is periodic within the 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	5.1	As needed, identify potential population establishment sites for each species	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Anticipated to be salary and travel cost of participating agencies in recovery meetings
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	5.2	Develop population augmentation and establishment protocols	Partially Complete			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Research: Propagation, Research: Reintroduction	Internal Administrative, Internal Technical Assistance, Species Expert	NPS has developed an ex-situ propagation protocol for ASAM. Both species have established germination protocols (Red Butte Garden and Zion NP).

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	5.3	Develop procedures for monitoring and evaluation success of expansion efforts	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Anticipated to be salary and travel cost of participating agencies in recovery meetings and writing
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	6.1	Conduct pre-release preparation and release activities	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Beginning FY5 at \$40K per year, 10 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	6.2	Conduct post-release activities	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Monitoring efforts; beginning FY6 at \$8K annually, 5 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	7.1	Maintain an active dialogue with Federal, State, and municipal agencies about recovery issues	Ongoing Current	FY 2007		U.S. Bureau of Land Management, U.S. Federal Highway Administration, National Park Service, U.S. Bureau of Indian Affairs, Academic institutions, U.S. Geological Survey, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Arizona's Trust Lands Administration, Department of Transportation (Utah and Arizona), Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$4K annually for 30 years, salary costs
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	7.3	Establish productive communications with ORV user groups and other interest groups	Not Started			U.S. Bureau of Land Management, National Park Service, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$2K/year for 10 years

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Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	7.4	Conduct information exchanges with agencies and organizations involved in fire management and other emergency operations	Not Started			U.S. Bureau of Land Management, National Park Service, U.S. Geological Survey, Local Governments, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Salary of involved Federal agency personnel. Multi-agency effort. Action duration is periodic within the 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	8.1.1	Implement milk-vetch recovery into broader interpretive programs	Not Started			U.S. Bureau of Land Management, National Park Service, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Utah and Arizona State agencies other than SITLA and ASLD, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	Salary of involved Federal agency personnel plus guest speaker fees and/or exhibits.
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	3	8.1.2	Coordinate recovery volunteer program	Not Started			U.S. Bureau of Land Management, National Park Service, Academic institutions, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$2K/year. Salary of involved Federal agency personnel



Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	2	8.2	Develop materials and make presentations for educational institutions	Not Started			U.S. Bureau of Land Management, National Park Service, U.S. Geological Survey, Non-governmental organizations (e.g. The Nature Conservancy), Private Landowners, Arizona's Trust Lands Administration, Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Work type not yet selected	Labor type not yet selected	\$3K every other year. Multi-agency effort. Action duration is periodic within the 30 years
Shivwits milk-vetch (Astragalus ampullarioides), Holmgren milk-vetch (Astragalus holmgreniorum)	1	9	Provide oversight and support for implementation of recovery actions	Ongoing Current	FY 2007		U.S. Bureau of Land Management, National Park Service, U.S. Bureau of Indian Affairs, Academic institutions, U.S. Geological Survey, The Nature Conservancy, Non-governmental organizations (e.g. The Nature Conservancy), Shivwits Band of the Paiute Tribe, Utah State Institutional Trust Lands Administration, U.S. Fish and Wildlife Service, Region 6	Acquisition: Fee Title, Management: General, Management: Land Use, Management: Planning, Management: Population Monitoring, Management: Propagation, Other: Administration, Other: Information and Education, Other: Law Enforcement, Research: Ecosystem Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Assessment, Research: Population Surveys, Research: Predation, Research: Propagation	Labor type not yet selected	\$10K annually for 30 years